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Indian Standard

STRAIGHT REDUCER COUPLING BODY FOR OIL HYDRAULIC SYSTEM — SPECIFICATION

UDC 621·643·415 : 621·22

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

March 1992

Price Group 2

Fluid Power Fittings, Hoses and Hose Assemblies Sectional Committee, PE 17

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Fluid Power Fittings, Hoses and Hose Assemblies Sectional Committee had been approved by the Production Engineering Division Council.

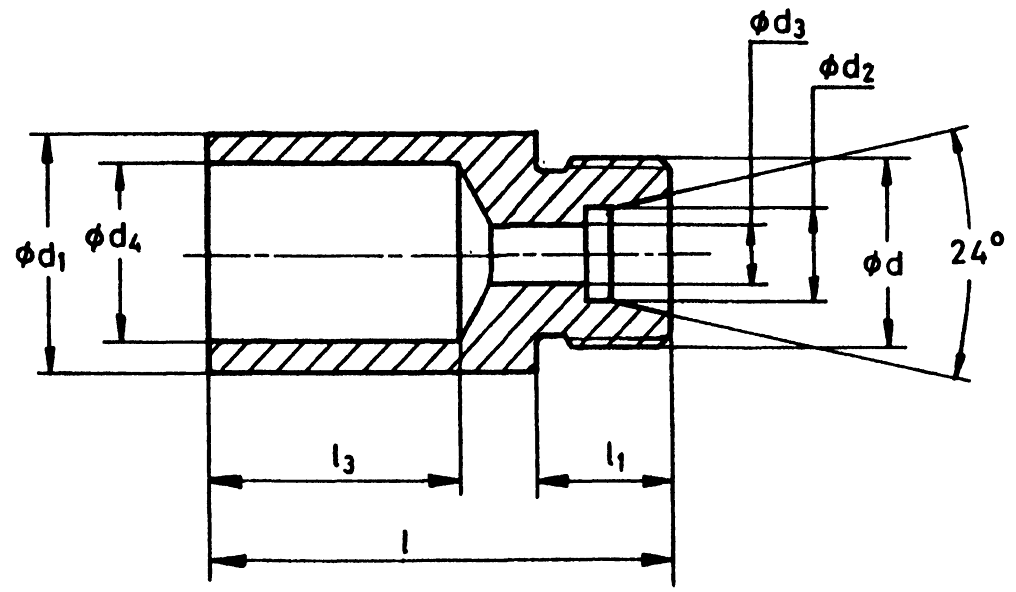
In the preparation of this standard considerable assistance has been derived from BS 4368 (Part I & III) Carbon and Stainless Steel Compression Coupling for Tubes (for Heavy Series and Light Series), issued by the British Standards Institution (BSI).

AMENDMENT NO. 1 SEPTEMBER 2005
TO
IS 13337 : 1992 STRAIGHT REDUCER COUPLING BODY FOR OIL HYDRAULIC SYSTEM — SPECIFICATION

(*Pages* 2 *and* 3, *Table* 1) — Substitute the following for the existing table:

Table 1 Dimensions for Straight Reducer Coupling Body
(*Clause* 3)

All dimensions in millimetres.



Light Series, L

Ød_1	Ød_2	Ød	Ød_3	Ød_4	l_1	l_3	l
8	6	M 12 × 1.5	4	6	10	16	30.5
10	6	M 12 × 1.5	4	7	10	16	30.5
10	8	M 14 × 1.5	6	7	10	16	30.5
12	6	M 12 × 1.5	4	9	10	16	30.5
12	8	M 14 × 1.5	6	9	10	16	30.5
12	10	M 16 × 1.5	8	9	11	16	31.5
15	6	M 12 × 1.5	4	11	10	16	30.5
15	8	M 14 × 1.5	6	11	10	16	30.5
15	10	M 16 × 1.5	8	11	11	16	31.5
15	12	M 18 × 1.5	10	11	11	16	31.5
18	6	M 12 × 1.5	4	14	10	16	31.5
18	8	M 14 × 1.5	6	14	10	16	31.5
18	10	M 16 × 1.5	8	14	11	16	32.5
18	12	M 18 × 1.5	10	14	11	16	32.5
18	15	M 22 × 1.5	12	14	12	16	33.5
22	6	M 12 × 1.5	4	18	10	15	32.5
22	8	M 14 × 1.5	6	18	10	15	32.5
22	10	M 16 × 1.5	8	18	11	15	33.5
22	12	M 18 × 1.5	10	18	11	15	33.5
22	15	M 22 × 1.5	12	18	12	15	34.5
22	18	M 26 × 1.5	15	18	12	15	34.5

Price Group 1

Table 1 (*Continued*)

$\varnothing d_1$	$\varnothing d_2$	$\varnothing d$	$\varnothing d_3$	$\varnothing d_4$	l_1	l_3	l
28	6	M 12 × 1.5	4	24	10	15	33.5
28	8	M 14 × 1.5	6	24	10	15	33.5
28	10	M 16 × 1.5	8	24	11	15	34.5
28	12	M 18 × 1.5	10	24	11	15	34.5
28	15	M 22 × 1.5	12	24	12	15	35.5
28	18	M 26 × 1.5	15	24	12	15	35.5
28	22	M 30 × 2.0	19	24	14	15	37.5
35	6	M12 × 1.5	4	30	10	16	38.5
35	8	M14 × 1.5	6	30	10	16	38.5
35	10	M16 × 1.5	8	30	11	16	39.5
35	12	M18 × 1.5	10	30	11	16	39.5
35	15	M22 × 1.5	12	30	12	16	40.5
35	18	M26 × 1.5	15	30	12	16	40.5
35	22	M30 × 2.0	19	30	14	16	42.5
35	28	M36 × 2.0	24	30	14	16	42.5
42	6	M12 × 1.5	4	36	10	16	40.5
42	8	M14 × 1.5	6	36	10	16	40.5
42	10	M16 × 1.5	8	36	11	16	40.5
42	12	M18 × 1.5	10	36	11	16	40.5
42	15	M22 × 1.5	12	36	12	16	41.5
42	18	M26 × 1.5	15	36	12	16	41.5
42	22	M30 × 2.0	19	36	14	16	43.5
42	28	M36 × 2.0	24	36	14	16	43.5
42	35	M45 × 2.0	30	36	16	16	45.5

Heavy Series, H

$\varnothing d_1$	$\varnothing d_2$	$\varnothing d$	$\varnothing d_3$	$\varnothing d_4$	l_1	l_3	l
8	6	M14 × 1.5	4	4	12	-	32
10	6	M14 × 1.5	4	6	12	16	33
10	8	M16 × 1.5	5	6	12	16	33
12	6	M14 × 1.5	4	7	12	16	34
12	8	M16 × 1.5	5	7	12	16	34
12	10	M18 × 1.5	7	7	12	-	34
14	6	M14 × 1.5	4	8	12	18	36
14	8	M16 × 1.5	5	8	12	18	36
14	10	M18 × 1.5	7	8	12	18	36
14	12	M20 × 1.5	8	8	12	18	36
16	6	M14 × 1.5	4	12	12	18	36
16	8	M16 × 1.5	5	12	12	18	36
16	10	M18 × 1.5	7	12	12	18	36
16	12	M20 × 1.5	8	12	12	18	36
16	14	M22 × 1.5	10	12	14	18	38
20	6	M14 × 1.5	4	15	12	22	41
20	8	M16 × 1.5	5	15	12	22	41
20	10	M18 × 1.5	7	15	12	22	41
20	12	M20 × 1.5	8	15	12	22	41
20	14	M22 × 1.5	10	15	14	22	43
20	16	M24 × 1.5	12	15	14	22	43

Table 1 (*Concluded*)

Ød_1	**Ød_2**	**Ød**	**Ød_3**	**Ød_4**	l_1	l_3	l
25	6	M14 × 1.5	4	19	12	23	44
25	8	M16 × 1.5	5	19	12	23	44
25	10	M18 × 1.5	7	19	12	23	44
25	12	M20 × 1.5	8	19	12	23	44
25	14	M22 × 1.5	10	19	14	23	45
25	16	M24 × 1.5	12	19	14	23	45
25	20	M30 × 1.5	16	19	16	23	48
30	6	M14 × 1.5	4	25	12	23	46
30	8	M16 × 1.5	5	25	12	23	46
30	10	M18 × 1.5	7	25	12	23	46
30	12	M20 × 1.5	8	25	12	23	46
30	14	M22 × 1.5	10	25	14	23	48
30	16	M24 × 1.5	12	25	14	23	48
30	20	M30 × 2.0	16	25	16	23	50
30	25	M36 × 2.0	20	25	18	23	52
38	6	M14 × 1.5	4	32	12	25	50
38	8	M16 × 1.5	5	32	12	25	50
38	10	M18 × 1.5	7	32	12	25	50
38	12	M20 × 1.5	8	32	12	25	50
38	14	M22 × 1.5	10	32	14	25	52
38	16	M24 × 1.5	12	32	14	25	52
38	20	M30 × 2.0	16	32	16	25	54
38	25	M36 × 2.0	20	32	18	25	56
38	30	M42 × 2.0	25	32	20	25	58

(BP 17)

Reprography Unit, BIS, New Delhi, India

Indian Standard

STRAIGHT REDUCER COUPLING BODY FOR OIL HYDRAULIC SYSTEM — SPECIFICATION

1 SCOPE

This standard specifies the dimensions, material and other requirements for straight reducer coupling body used in oil hydraulic system for both light and heavy series.

2 REFERENCE

The following Indian Standards are necessary adjuncts to this standard:

IS No.	*Title*
2102 (Part 1) : 1980	General tolerance for dimensions and form and position: Part 1 General tolerances for linear and angular dimensions (*second revision*)
2500 (Part 1) : 1973	Sampling inspection tables: Part 1 Inspection by attributes and by count of defects (*first revision*)
3618 : 1966	Phosphate treatment of iron and steel for protection against corrosion
4431 : 1978	Carbon and carbon manganese free-cutting steel (*first revision*)
8805 (Part 1) : 1978	General requirements for ferrule type couplings used in oil hydraulic system: Part 1 General
13336 : 1992	Reducer coupling assemblies for oil hydraulic systems — Specification

3 DIMENSIONS

Dimensions shall be as given in Table 1.

3.1 Tolerance for d_1 and d_2 shall be as given in IS 8805 (Part 1) : 1978.

3.2 For other dimensions where tolerance has not been specified, tolerance shall be according to IS 2102 (Part 1) : 1980.

4 MATERIAL

The straight reducer coupling body shall be made of steel conforming to designation 14C14S14 of IS 4431 : 1978 or any other equivalent steel as agreed to between the user and the manufacturer.

5 SURFACE PROTECTION

The straight reducer body to be phosphated to Class A of IS 3618 : 1966 unless otherwise agreed to between the user and the manufacturer.

6 GENERAL REQUIREMENTS

6.1 These reducer coupling bodies are intended for assembly in accordance with IS 13336 : 1992.

6.2 For details not covered in this standard reference shall be made to IS 8805 (Part 1) : 1978.

7 SAMPLING

7.1 Lot

In a consignment, all the straight reducer coupling body of same designation, manufactured from the same material under similar conditions of production shall be grouped together to constitute a lot.

7.2 Unless otherwise agreed to between the supplier and the purchaser, the procedure given in IS 2500 (Part 1) : 1973 shall be followed for sampling inspection. The inspection level, acceptable quality level (AQL), and type of sampling plan to be followed for various characteristics shall be as given in 7.2.1.

7.2.1 For shape, dimensions, designation, workmanship and finish, and general requirements, a single sampling plan with Inspection Level IV and AQL of 2·5% as given in Tables 1 and 2 of IS 2500 (Part 1) : 1973 shall be followed.

8 DESIGNATION

A reducer coupling body of Light Series for outside diameter of 8 mm and outside dia of tube 6 mm conforming to this standard shall be designated as:

Reducer Body IS 13337 L 8 × 6

9 PACKAGING

Reducer coupling body shall be suitably packed so that no damage takes place while transporting and storing. The mode of packaging shall be as agreed to between the purchaser and the supplier.

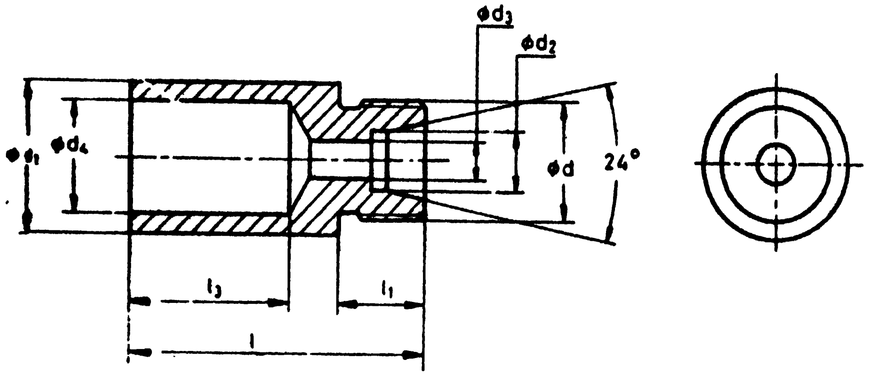
10 MARKING

Each coupling body shall be marked with designation and source of manufacture.

Table 1 Dimensions for Straight Reducer Coupling Body

(*Clause* 3)

All dimensions in millimetres.



Series	d_1	d_2	d	d_3	d_4	l_1	l_3	l
L	8	6	M 12 × 1·5	4	6	10	16	30·5
	10	6	M 12 × 1·5	4	7	10	16	30·5
	10	8	M 14 × 1·5	6	7	10	16	30·5
	12	6	M 12 × 1·5	4	9	10	16	30·5
	12	8	M 14 × 1·5	6	9	10	16	30·5
	12	10	M 15 × 1·5	8	9	11	16	31·5
	15	6	M 12 × 1·5	4	11	10	16	30·5
	15	8	M 14 × 1·5	6	11	10	16	30·5
	15	10	M 16 × 1·5	8	11	11	16	31·5
	15	12	M 18 × 1·5	10	11	11	16	31·5
	18	6	M 12 × 1·5	4	14	10	16	31·5
	18	8	M 14 × 1·5	6	14	10	16	31·5
	18	10	M 16 × 1·5	8	14	11	16	32·5
	18	12	M 18 × 1·5	10	14	11	16	32·5
	18	15	M 22 × 1·5	12	14	12	16	33·5
	22	6	M 12 × 1·5	4	18	10	15	32·5
	22	8	M 14 × 1·5	6	18	10	15	32·5
	22	10	M 16 × 1·5	8	18	11	15	33·5
	22	12	M 18 × 1·5	10	18	11	15	33·5
	22	15	M 22 × 1·5	12	18	12	15	34·5
	22	18	M 26 × 1·5	15	18	12	15	34·5
	28	6	M 12 × 1·5	4	24	10	15	33·5
	28	8	M 14 × 1·5	6	24	10	15	33·5
	28	10	M 16 × 1·5	8	24	11	15	34·5
	28	12	M 18 × 1·5	10	24	11	15	34·5
	28	15	M 22 × 1·5	12	24	12	15	35·5
	28	18	M 26 × 1·5	15	24	12	15	35·5
	28	22	M 30 × 2	19	24	14	15	37·5
	35	6	M 12 × 1·5	4	30	10	16	38·5
	35	8	M 14 × 1·5	6	30	10	16	38·5
	35	10	M 16 × 1·5	8	30	11	16	39 5
	35	12	M 18 × 1·5	10	30	11	16	39·5
	35	15	M 22 × 1·5	12	30	12	16	40·5
	35	18	M 26 × 1·5	15	30	12	16	40·5
	35	22	M 30 × 2	19	30	14	16	42·5
	35	28	M 36 × 2	24	30	14	16	42·5
	42	6	M 12 × 1·5	4	36	10	16	39·5
	42	8	M 14 × 1·5	6	36	10	16	39·5
	42	10	M 16 × 1·5	8	36	11	16	40·5
	42	12	M 18 × 1·5	10	36	11	16	40·5
	42	15	M 22 × 1·5	12	36	12	16	41·5
	42	18	M 26 × 1·5	15	36	12	16	41·5
	42	22	M 30 × 2	19	36	14	16	43·5
	42	28	M 36 × 2	24	36	14	16	43·5
	42	35	M 45 × 2	30	36	16	16	45·5

Table 1 (*Concluded*)

Series	d_1	d_2	d	d_3	d_4	l_1	l_2	l
H	8	6	M 14 × 1·5	4	4	12	—	32
	10	6	M 14 × 1·5	4	6	12	16	33
	10	8	M 16 × 1·5	5	6	12	16	33
	12	6	M 14 × 1·5	4	7	12	16	34
	12	8	M 16 × 1·5	5	7	12	16	34
	12	10	M 18 × 1·5	7	7	12	—	34
	14	6	M 14 × 1·5	4	9	12	18	36
	14	8	M 16 × 1·5	5	9	12	18	36
	14	10	M 18 × 1·5	7	9	12	18	36
	14	12	M 20 × 1·5	8	9	12	18	36
	16	6	M 14 × 1·5	4	11	12	18	36
	16	8	M 16 × 1·5	5	11	12	18	36
	16	10	M 18 × 1·5	7	11	12	18	36
	16	12	M 20 × 1·5	8	11	12	18	36
	16	14	M 22 × 1·5	10	11	14	18	38
	20	6	M 14 × 1·5	4	15	12	22	41
	20	8	M 16 × 1·5	5	15	12	22	41
	20	10	M 18 × 1·5	7	15	12	22	41
	20	12	M 20 × 1·5	8	15	12	22	41
	20	14	M 22 × 1·5	10	15	14	22	43
	20	16	M 24 × 1·5	12	15	14	22	43
	25	6	M 14 × 1·5	4	19	12	23	44
	25	8	M 16 × 1·5	5	19	12	23	44
	25	10	M 18 × 1·5	7	19	12	23	44
	25	12	M 20 × 1·5	8	19	12	23	44
	25	14	M 22 × 1·5	10	19	14	23	46
	25	16	M 24 × 1·5	12	19	14	23	46
	25	20	M 30 × 2	16	19	16	23	48
	30	6	M 14 × 1·5	4	24	12	23	46
	30	8	M 16 × 1·5	5	24	12	23	46
	30	10	M 18 × 1·5	7	24	12	23	46
	30	12	M 20 × 1·5	8	24	12	23	46
	30	14	M 22 × 1·5	10	24	14	23	48
	30	16	M 24 × 1·5	12	24	14	23	48
	30	20	M 30 × 2	16	24	16	23	50
	30	25	M 36 × 2	20	24	18	23	52
	38	6	M 14 × 1·5	4	30	12	25	50
	38	8	M 16 × 1·5	5	30	12	25	50
	38	10	M 18 × 1·5	7	30	12	25	50
	38	12	M 20 × 1·5	8	30	12	25	50
	38	14	M 22 × 1·5	10	30	14	25	52
	38	16	M 24 × 1·5	12	30	14	25	52
	38	20	M 30 × 2	16	30	16	25	54
	38	25	M 36 × 2	20	30	18	25	56
	38	30	M 42 × 2	25	30	20	25	58

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